



# CHANGING ROLE OF TEACHER EDUCATORS IN THE TECHNOLOGICAL WORLD

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## ABSTRACT

Education around the world has gone through a great pressure to teach the 21st century digitalized brilliant learners. The challenge before our educational system is how to transform the curriculum, shift a teaching-learning process to enable the students to acquire the 21st century skills and function actively in the modern society. The teaching profession is becoming more and more complex day-by-day. Teaching in higher education is not merely knowledge transformation; it requires higher order cognition skills. Effective Quality teachers need to be strong in the content to be taught as well as their way of presenting the content skilfully based on the needs of students. With the support of technology skilled educator's use of technology in promoting constructivism pedagogy make the learners to acquire the competent skills, effective learning environment and improve lifelong learning skills and produce ICT literate citizens. In this paper an attempt has been made to show the need of training teacher to adopt innovative technology in their class room, need of technology integration in preparation stage of teacher programme and its benefits to solve the demands of students and society are discussed.

**KEYWORDS:** Teacher, Education, Higher Education, Quality Teaching

## INTRODUCTION

"True teachers are those who use themselves as bridges over which they invite their students to cross; then, having facilitated their crossing, joyfully collapse, encouraging them to create their own" - Nikos Kazantzakis

Indian education system was criticized for the techniques adopted in teaching learning process like memorizing, mugging and pressurized system, but it has its own uniqueness of preparing individuals to face the world. Though our education system suffers from some serious lacunae, it follows a very strict and has profound ways of teaching young children to lead a proper meaningful life. Earlier teachers were considered as a source of information through traditional methods teacher conveys the information. But present students master new knowledge domains using the collection of large amounts of gathered information from the technology they adopt. Today's technological world has created lots of change in student's information gathering process, thinking and reflecting. They expect their teaching and learning environment should engage them in interactive, encourage social interaction and collaboration with space for them to discuss deeper level of understanding in learning situation. They expect their teacher has to be a facilitator, guide, co-learner and friend than knowledge transmitter. To face the brilliant and technologically equipped students every teacher has to be efficient with the 21st century skills namely learning and innovation skills, information, media and technology skills, life and career skills.

The true education has the responsibility to equip the youth with real knowledge and skills, by which they will be able to build up their character, attitudes and vision of the future. A nation is built on its educated citizens, educational system and the policies followed to produce good citizens. India has one of the largest higher education systems in the world. For the past sixty nine years it faced a lot of changes and seen a tremendous growth in numbers of institutions, students enrolment in eleventh five year plan period comparing to the past decades. According to FICCI- E&Y (2012) "The Eleventh Plan saw nine fold increases in the public spending on higher education which fuelled significant inclusive expansion in the public higher education sector. However, there has been no significant improvement in terms of quality of higher education delivery. The issues of skill gaps, skill shortages, and unemployable graduates still persist". The focus of higher education should be wider so that the entire human in the globe must enjoy the benefit of it (Shyam Sunder, 2010). The UNESCO World Education Report (1998) Teachers and Teaching in a Changing World, the young generation is entering a world that is challenging in all spheres; scientific and technological, political, economical, social and cultural. The emergence of "knowledge based society" is changing the global economy and the status of education. The knowledge based society is one which:

- the world's knowledge base doubles every 2-3 years
- 7000 scientific and technical articles are published each day
- data sent from satellites orbiting the earth transmit enough data to fill 19 million volumes every two weeks
- graduates of secondary schools in industrialized nations have been exposed to more information than their grandparents were in a lifetime;

- There will be as much change in the next three decades as there was in the last three centuries (National School Board Association, 2002).

Education around the world has gone through a great pressure to teach the 21st century digitalized brilliant learners. The challenge before our educational system is how to transform the curriculum, shift a teaching-learning process to enable the students to acquire the 21st century skills and function actively in the modern society. The whole system believes in the quality of teacher and teacher training programmes. Society expects the teachers as remarked by Nikos Kazantzakis, to produce such, teacher educators have to be equipped with multi skilled, competent person in technology, pedagogy and content components and able to adopt the teaching learning process.

## Technology and Quality Education

The technology and systems is the combination all the techniques, methods which helps to transmit knowledge, promote understanding and aware of concept, provide support for growth of competent skills. As rightly said by Borgmann (2006) Technology can be viewed as an activity that forms or changes culture. Additionally, technology is the application of math, science, and the arts for the benefit of quality life as it is known. There's no one definition of "quality" that applies to every discipline. But in education we know quality occurs when: students are learning, schools and universities create value for those they serve and those who serve them.

Quality is a continuous effort which makes the teaching learning programme successful one. According to Dr. Radhakrishnan "Quality education, which gives the children purpose in life and ensure the cognitive, effective, psycho motor domains of child's development". NCF(2005) states quality in education includes a concern for quality of life in all dimensions. According to the Education for All: Global Monitoring Report 2005 - The Quality Imperative (EFA: GMR), two principles characterize most attempts to define quality in education: the first identifies learners' cognitive development as the major explicit objective of all education systems. The second emphasizes education's role in promoting values and attitudes of responsible citizenship and in nurturing creative and emotional development."

Harvey (1995) provides a vision of quality within individual system by outlining five goals for education: Quality as Exceptional or as Excellence, as Perfection or Consistency, as Fitness -for- Purpose, as Value for Money, and as Transformative Potential. Quality education includes: learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities, Environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities, content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, prevention and peace as well as processes through which trained teachers use child-centered teaching approaches in well-managed classrooms and schools and skilful assessment to facilitate learning and reduce disparities, outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society. (Sadig Rasheed, 2000).

### Impact of Technology in Teaching Learning Process

The teacher oriented content delivering approach gave more emphasis on acquiring information or knowledge but the modern competitive world needs to promote the competency, capabilities and performance among learners to construct knowledge to overcome the challengeable situation. Daniel (2002) remarks ICT with in a very short time become one of the basic building blocks of modern society; undoubtedly it affected the teaching and learning process as well as research. According to Oliver (2000) contemporary ICTs are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies. As cited by Yusuf (2005) in his article ICTs have the potential to accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change.

Integrating technology in education can develop the quality of education by providing support to understand the difficult areas of study and act as a catalyst for change of attitude for adopting innovative practices in education. When ICT is employed in teaching learning process more students can experience a meaningful joyful learning and engage them in independent enquiry. This will lead to achieve a desired new scenario learning outcome. The correct selection and adaptation of technology can foster the students to be innovators and constructive learners. These attitudes make them to equip with the most important 21st century skills which they will need to face the world. ICT helps to find creative solutions to the challenges faced in daily life. It provides high quality education to reach a broader audience at lower cost. It also increases the productivity of teachers and helps to use differentiated teaching competencies.

### Key Competence of Technology Skilled Educators

Technology Skilled Educators are the one who able use the collection of techniques, processes, skills, methods, processes and application of mental and physical effort to achieve the target as well as the environment in control. Technology Skilled Educators are the one who achieve the goals set for themselves as well as for produce capabilities to solve the problem of others. They are the one having all round personality & intellectual depth, sense of humour, confident and ease when teaching, good relation with the pupils, manage the class well, plan the lessons well, make lessons interesting, explains points clearly and pay attention to revision and examination reforms. They can teach using different methods of teaching, employing a variety of audio visual aids and conveys high expectation for work of the pupils. They stimulate and motivate pupils to think independently, creative, constructive, innovative and helpful I criticism of pupils, resourceful in providing the varied experiences to the students, flexible, alert and democratic in nature (Krishnan & Nightigale, 1994).

Technology Skilled Educators continuously upgrade their knowledge as well as to acquire skills in the pedagogy, innovative teaching methods, curriculum development and its integration, staff development and effective learning, communicative skills, development or encouragement to use creative techniques and innovative ideas, basic competencies in science and technology, digital competence, learning to learn, sense of initiative and entrepreneurship, cultural awareness and expression these key competencies are all interdependent and the emphasis in each is on critical thinking, creativity, initiative, problem solving, risk assessment, decision taking and constructive management of feelings (ramani, et.al., 2011).

In addition to that Technology Skilled educators upgrade information and media literacy skills, critical thinking and systems thinking, creativity and intellectual curiosity, interpersonal and collaborative skills, self-direction, accountability and adaptability, problem identification, formulation, solution, decision making skills, social responsibility, understand computational modeling, manage and priorities tasks, analyze and interpret data skill, engage in problem solving, ensure security and safety to face the future generations:

In the education world every teacher has to understand the curriculum, based on that they have to formulate learning objectives, plan and select instructional delivery mode, strategies to be adopted, appropriate intervention according to the needs of the students and the expected outcome. All these process has to link together, if it seen as separate process human resource and their energy will get waste. Technology skilled educators linked the all the process to get the potential solutions and deploy the required skills among the learners. These types of persons adopt different personalized instruction, open educational resources, communication, collaboration, interactive stimulus and games for designing and delivery in the classroom.

Through the different combination of technology educators not only perform multiple tasks at the time they also create innovativeness and interest among their learners which make them to learn multiple skills at the same time. In addition learners are engaged to use different learning facilities and use of collaborative and digital tools. Many of the teachers after entering into the profession feels there should be some training or course to improve their skills and update knowledge to share their views, introduce newer methods and technology. There are many blocks which close the path of teacher's self-development few among them are lack of opportunity, space technically skilled quality teacher. Online courses

are the one which helps the professional who are interested to learn and update.

### Role of Technology Skilled Educators in promoting Quality Education

Arne Duncan (2009), U.S. Secretary of Education remarks the challenges before teacher and importance of talented teachers in his words as "To make the dream of equal educational opportunity a reality, we need to recruit, reward, train, learn from, and honour a new generation of talented teachers. But the bar must be raised for successful teacher preparation programs because we ask much more of teachers today than even a decade ago. Today teachers are asked to achieve significant academic growth for all students at the same time that they instruct students with ever-more diverse needs. Teaching has never been more difficult, it has never been more important, and the desperate need for more student success has never been so urgent. Are we adequately preparing future teachers to win this critical battle?" This challenges our higher education system to ensure the quality in all dimensions. Quality in education is highly influenced by teaching - learning process and experience gained by the students and the outcomes from them. Teaching in higher education is not merely knowledge transformation; it requires higher order cognition skills.

For teaching the newer generation as well as future generation integrating technology with the teaching learning process plays an important role. Every teacher has to adopt technology. There are many teachers in the education system but the teacher at present are not sufficient to handle the class according to the needs of 21st century learners. For the successful implementation of computer in schools since teacher training courses have vital influences on students for their future conceptions and uses of computer in the classrooms. But teacher trainees has phobia nowadays to use technology in their classrooms. Changing this mentality and their attitude will leads way to have the beneficial young generations, for this infusing technology resource in the training program is the correct stage. So that teachers of future should possess a greater knowledge. Standards developed by the International Society for Technology in Education (ISTE) divide technology teacher should use into five broad practices: Facilitate and inspire student learning and creativity, Design and develop digital-age learning experiences and assessments, Model digital-age work and learning, Promote and model digital citizenship and responsibility, and Engage in professional growth and leadership. Technology teacher educators make a major difference in the attitude of others to adopt technology in their leaning process. They can enhance the use of technology in the learning environment which facilitates the active, collaborative, creative, critical thinking integrative and productive reflecting. These ways of adaptation of new skills and familiarizing with innovative environment enhance the minds of learners to act as self paced, assessed, directed and independent thinkers improve overall standard of education leads to remove the skill gaps, shortages, and achieve the goals of producing quality outcome or product.

### Obstacles in producing Technology Skilled Teachers:

There are several obstacles to infuse technology into teacher education programs in producing technology skilled teachers: They include:

- Lack of faculty training and technical support;
- Lack of funds and limited availability of equipment
- Lack of time to develop facility in using equipment and software;
- Lack of appropriate materials, particularly integrated media materials suitable for teacher education instruction; and
- No clear expectation that faculty will incorporate technology in academic activities;
- Doubt about the pedagogical validity of using some of the newer technologies since the appearance of literature about these tools is relatively recent;
- Absence of clear programmatic goals for the teacher education program as a whole.
- Disagreement among teacher educators about the best approach to preparing teachers who are proficient in computer-based instructional technologies. Topp et.al. (1995) and Baron et.al (1994)
- Teacher educators do not sufficiently model appropriate use of computers for instructional purposes, either in courses or field experiences (Bosch & Cardinale, 1993).
- These programs do not, typically, incorporate technology across the curriculum (Walters, 1992).

According Baron, (1994) the instruction that is provided to pre-service teachers tends to focus more on the older and simpler instructional applications of computer technology (e.g., computer assisted instruction, word processing) and less on exposure to and practice with newer, more sophisticated tools (e.g., electronic networks, integrated media, problem-solving applications), which support development of students' higher-order thinking and problem-solving skills.

**CONCLUSION**

Twenty first century learners are highly intellectuals than earlier. Due to globalization and privatization, technology revolution student's expectation from teachers is high and teacher cannot simply remain what he learnt is enough and also thinks he/she is not the only source. Ivan Illiach the prophet of De schooling Society said that most of the education takes place before the school, outside the school and since the school, schools are not only the place of learning and children at present are allowed to learn freely and widely. The teaching profession is becoming more and more complex day-by-day. Teaching in higher education is not merely knowledge transformation; it requires higher order cognition skills. Effective Quality teachers need to be strong in the content to be taught as well as their way of presenting the content skilfully based on the needs of students. With the support of technology skilled educator's use of technology in promoting constructivism pedagogy make the learners to acquire the 21st century competent skills, effective learning environment and improve lifelong learning skills and habits produce ICT literate citizens. Training teacher to adopt innovative technology in their class room becomes a need of the present society, but if it is done in the beginning or preparation stage of teacher programme it will helps them to reach the understanding levels of the students and helps to provide quality education as well as solve the demands of students and society.

**REFERENCES**

1. Baron, L. C., & Goldman, E. S. (1994). Integrating technology with teacher preparation. In B. Means (Ed.), *Technology and education reform* (pp. 81-110). San Francisco: Jossey-Bass Publishers. Borgmann, Albert
2. (2006). "Technology as a Cultural Force: For Alena and Griffin". *The Canadian Journal of Sociology*. 31 (3): 351-360. Retrieved from doi:10.1353/cjs.2006.0050 on 16 October 2016.
3. Bosch, K. A., & Cardinale, L. (1993). Preservice teachers' perceptions of computer use during a field experience. *Journal of Computing in Teacher Education*, 10(1), 23-27. EJ 492 121.
4. Daniels J.S. (2002) "Foreword" in *Information and Communication Technology in Education—A Curriculum for Schools and Programme for Teacher Development*. Paris: UNESCO.
5. Duncan, Arne. (2009) "Teacher preparation: Reforming the uncertain profession." New York: Remarks presented at Teachers College, Columbia University.
6. Education for All: Global Monitoring Report (2005) retrieved from Grace Grima(2008). What is quality education?. <http://www.timesofmalta.com/articles/view/20081128/education/what-is-quality-education.234848>.
7. Harvey, L. (2006). 'Understanding Quality', Section B 4.1-1 of 'Introducing Bologna objectives and tools' in Purser, L. (Ed.) *EUA Bologna Handbook: Making Bologna work*, Brussels European University Association and Berlin, Raabe.
8. International Society for Technology in Education. (2000). *ISTE National Educational Technology Standards (NETS) and Performance Indicators for Teachers*. Retrieved from [www.iste.org/docs/pdfs/nets\\_for\\_teachers\\_2000.pdf](http://www.iste.org/docs/pdfs/nets_for_teachers_2000.pdf)
9. Krishnan.S.S and Nightigale,M.A.( 1994). *Understanding Effective Teaching*, University News ,New Delhi
10. Macek, Jakub. (2005). "Defining Cyber Culture ". Retrieved from doi: macek.czechian/defining-cyber culture. htm on 25 October 2016.
11. National School Board Association. (2002). *Why Change?* [Online]. Retrieved from doi:
12. <http://www.nsba.org/sbot/toolkit/WhyChange.html> on Oct 2016
13. Sadig Rasheed,(2000). *Defining Quality in Education* .Document No. UNICEF/ PD/ ED/ 00/02.Retrieved on 12.11.2011
14. Topp, N. W., Mortensen, R., & Grandgenett, N. (1995). Building a technology--using faculty to facilitate technology-using teachers. *Journal of Computing in Teacher Education*, 11(3), 11-14. SP 524 325
15. UNESCO (2002). "Information and communication technology in education": A curriculum for schools and programme of teacher development. Ed. J.S Danials.
16. Walters, J. T. (1992, June). Technology in the curriculum: The inclusion solution. Paper presented at the National Forum of the Association of Independent Liberal Arts Colleges for Teacher Education, Louisville, KY. ED 350 281.
17. Yusuf, M.O. ( 2005). "Information and communication education: Analyzing the Nigerian national policy for information technology". *International Education Journal* Vol. 6 No. (3), Pp; 316-321.